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(21) International Application Number: PCT/US96/14250 (22) International Filing Date: 28 August 1996 (28.08.96) (30) Priority Data: 60/002,963 30 August 1995 (30.08.95) US (71) Applicant (for all designated States except US): NEW YORK MEDICAL COLLEGE [US/US]; Valhalla, NY 10595 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): DARZYNKIEWICZ, Zbigniew [US/US]; 37 Meadow Lane, Chappaqua, NY 10514 (US). LI, Xun [CN/US]; 1635 Morningview Drive, Yorktown Heights, NY 10598 (US). TRAGANOS, Frank [US/US]; 301 66th Street, New York, NY 10021 (US). (74) Agents: MacWRIGHT, Robert, S. et al.; Skadden, Arps, Slate, Meagher & Flom, 919 Third Avenue, New York, NY 10022 (US).	(81) Designated States: CA, IL, JP, US, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i>	
(54) Title: METHODS FOR LABELING DNA ENDS WITH HALOGENATED NUCLEOTIDES AND DETECTING SAME WITH ANTIBODIES (57) Abstract <p>The invention pertains to the field of DNA detection for basic research, medical diagnostic testing, and forensic testing. Methods are provided for the end labeling of DNA strands. The DNA strands are first incubated with a halogenated deoxynucleotide triphosphate, such as brominated deoxyuridine triphosphate (BrdUTP), and an enzyme which can catalyze the addition of the halogenated deoxynucleotide to the 3'OH ends of the DNA strand, such as terminal deoxynucleotide transferase (TdT). The resulting modified DNA strands are then incubated with a labeled antibody, such as a fluoresceinated monoclonal antibody, that specifically binds to the halogenated deoxynucleotide. The label is then detected, e.g., by flow cytometry. The methods have utility in detecting apoptosis, in detecting DNA synthesis and/or repair, and as general methods for end labeling of DNA.</p>		